

# BELGIUM AND LUXEMBOURG

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## BELGIUM

Belgium has a highly developed market economy and is located at the heart of one of the world's most highly developed industrialized regions. The country has a diversified industrial and commercial base. The first country to undergo an industrial revolution on the continent of Europe in the early 1800s, Belgium developed an excellent transportation infrastructure of ports, canals, railways, and highways to integrate its industry with that of its neighbors.

The mineral-processing industry was a significant contributor to the Belgian economy in 2002. The refining of copper, zinc, and minor metals and the production of steel, all from imported materials, were the largest mineral industries in Belgium. The extraction and recovery of nonferrous metals were carried out in large-scale, high-technology plants. Europe's largest electrolytic copper and zinc refineries were in Belgium, as was one of the continent's largest lead refineries. The country was also a significant producer of cadmium, germanium, selenium, and tellurium as byproducts from smelting and refining operations.

Although the country is small, Belgium has a developed industrial minerals sector. The country was a producer of such industrial materials as carbonates, which included limestone and dolomite; silica sand; and construction materials, which included a wide range of different types of marble.

Production of mineral commodities generally remained stable during 2002. As in the past, any increases in production generally followed the lines of exported goods, such as value-added nonferrous metals (table 1).

Table 2 lists the principal mining and mineral-processing facilities in Belgium with their location and capacity.

The Belgian mineral sector can be compared to a complex processing machine—it imports raw materials and semifinished goods that are further processed and reexported. Except for coal, which was not economical to exploit, Belgium has limited natural resources (U.S. Bureau of European and Eurasian Affairs, 2002, p. 10).

Environmental programs and policy in Belgium were the responsibility of the Federal Ministry of the Environment as well as its comparable ministries in Flanders and Wallonia, which are two separate regions of the country. Environmental programs ranged from treating oil effluent to reducing air pollution emissions. The country was late in complying with European Union (EU) water-treatment directives. As a consequence, the regions are investing significant amounts for the construction and upgrading of their main water-treatment plants, collectors, and sewers by 2005.

Belgium was a major exporting country and heavily reliant on international trade. The country's gross domestic product (GDP) was dominated by a very large service sector (72.6% of GDP) followed by manufacturing (26%) and agriculture (1.4%). Exports accounted for more than 74% of Belgium's GDP, making it one of the highest per capita exporters in the world. Most of Belgium's trade (76%) went to other member-states of the EU. In 2002, 8% of Belgium's imports came from the United States (U.S. Department of State, 2002<sup>1</sup>, p. 2). The trade balance between Belgium and the United States is listed in table 3.

On January 1, 2002, Belgium was one of the 11 EU member-states that successfully introduced the euro (€) as the official legal tender. Two months later, the Belgian franc ceased to be legal tender and from then on could only be exchanged at the Bank of Belgium and at post offices (U.S. Department of State, 2002<sup>1</sup>, p. 25).

Belgium, the Netherlands, and Luxembourg form the BENELUX customs unit. Since 1921, the economic union between Belgium and Luxembourg, which is known as the Belgium-Luxembourg Economic Union (BLEU), has involved the parity of currency, integrated foreign trade (including statistics), a balance-of-payments account, and a joint central bank. International trade data for Belgium are covered in the context of the BLEU and, as such, also cover the exports, reexports, and imports of Luxembourg. Other member-states of the EU were the BLEU's most important trading partners.

Umicore NV announced it would cease cadmium production in 2002. The company will end refining of the metal for commercial purposes at its Balen zinc complex. Production has been estimated to be about 1,400 metric tons per year (t/yr), and the loss of this capacity would significantly reduce Western World cadmium output. Even with this reduction the world market was still considered to be oversupplied (Metal Bulletin, 2002a).

Sidmar NV was proceeding with increasing pig iron production at its strip products plant. Production capacity was expected to increase by 500,000 t/yr to 4.2 million metric tons per year (Mt/yr) in 2003, after completion of relines of the company's two blast furnaces. Also, a second continuous slab caster with 2-Mt/yr capacity was started up in 2002. This will bring casting capacity up to 6 Mt/yr (Metal Bulletin, 2002b).

The diamond district of Antwerp, comprising four exchanges and 1,500 diamond companies, was the most important diamond distribution center in the world, handling \$26 billion in traded diamonds in 2002. More than 85% of the world's rough diamonds,

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<sup>1</sup>References that include a section mark (§) are found in the Internet References Cited section.

50% of cut diamonds, and 40% of industrial diamonds are traded in the city. Trade in rough diamonds rose by 19% to \$14 billion, while cut diamonds accounted for the remaining \$12 billion, up by 11% from the previous year. The United States was still the most important export market for cut diamonds, accounting for more than \$2 billion, up by 13% from 2001. The diamond sector accounts for 8% of Belgium's total exports (Josephs, 2002§).

Belgium, which has been an important producer of marble for more than 2,000 years, was recognized for the diversity and quality of its dimension stone. The so-called petit granite, which is actually a dark blue-gray crinoidal limestone, was one of the most important facing stones the country produces. All the marble quarries are in Wallonia. Red, black, and gray are the principal color ranges of the marble, most of which was exported.

When the last Belgian coal mines closed in 1992, the country became entirely dependent on imported primary energy. Belgium imported coal to meet the needs of the steel, cement, and power-generating industries and imported all its crude oil for its four petroleum refineries. Belgium's seven nuclear powerplants supplied more than one-half of its electricity needs. Natural gas, which was considered to be more environmentally acceptable as a fuel, has begun to play a more important role as an energy source. With Belgium at the center of the European gas grid, the country was favorably located for obtaining natural gas.

TotalFina S.A. planned to invest about \$78 million in its Antwerp refinery. This will be spent on 15 projects for the extension and improvement of productivity (Port of Antwerp, 2002a§).

The seaport of Antwerp is an important link in the chain of international trade. Antwerp's port operators handle almost 130 Mt/yr of cargo (58% incoming and 42% outgoing traffic). This makes Antwerp the fourth largest port in the world and the second largest port in Europe, after Rotterdam, Netherlands. The port covers more than 14,055 hectares of land with 130 kilometers of berths, about one-half of which are suitable for deep-draft ships. The Berendrecht lock is the largest dock in the world. Antwerp is Europe's leading port for steel products. Bulk terminals, with specialized facilities, handle large volumes of china clay (kaolin), coal, fertilizers, iron ore, nonferrous ores, and quartz sand (Flanders Foreign Investment Office, 2002§).

The Port of Antwerp was investing about \$5 million in two wind turbines, located on the north side of the Zandvliet lock, which will supply all the electrical power required by the locks, bridges, and service building in the docks. These two wind turbines, mounted on 100-meter (m) masts, will jointly deliver 9 million kilowatthours per year. The overall diameter of the rotor circle will be 80 m (Port of Antwerp, 2002b§).

Corporate restructuring and the government policy of budget cuts, which were split between the Federal Government and the regional authorities of Flanders and Wallonia, were expected to make Belgian products more competitive in the world market. The export-oriented Belgian industries relied heavily on the markets of its trading partners; when these partners' profits and cashflow increase, Belgium's economy will also experience positive results because it will be able to export more of its products.

## LUXEMBOURG

In 2002, Luxembourg's mineral industry consisted principally of raw materials processing, information systems, and mineral trading.

As a member of the BLEU, trade statistics for Luxembourg are inextricably linked with those of Belgium and, therefore, cannot be listed individually. The iron and steel industry was Luxembourg's most important mineral industry sector; steel was the country's main export commodity.

Acieries Reunies de Burbach-Eich-Dudelang (ARBED) dominated the country's mineral industry and was the major producer of pig iron, crude steel, and stainless steel, all from imported material. The company specialized in the production of large architectural steel beams. The company was also involved in other areas of the economy, such as the cement and brickmaking industries. ARBED's domestic and foreign subsidiaries had interests in cement, copper foil production, engineering, mining, and in steelmaking and steel products.

In January 2002, ARBED merged with Usinor Group of France and Aceralia S.A. of Spain to become the world's largest steel company. The name of the new group is Arcelor Group and was expected to focus its activities on four sectors—flat carbon steel products; long carbon steel products; stainless steel products; and distribution, processing, and trading. The new group was disposing of their metallic coating plants (galvanized and electrogalvanized) in the flat products sector. Total combined annual production of the group was not reported (Arcelor Group, 2002§).

Mining in Luxembourg was represented by small industrial mineral operations that produced material for domestic consumption. These minerals include dolomite, limestone, sand and gravel, and slate (table 1). Luxembourg's principal producers of mineral industry products are listed in table 2.

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## Major Sources of Information

Institute National de Statistiques  
Rue de Louvain 44  
1000 Brussels, Belgium  
Service Geologique de Belgique  
Rue Jenner 13  
1040 Brussels, Belgium  
Service Central de la Statistique et des Études Economiques (STATEC)  
6 Boulevard Royal  
2013 Luxembourg

TABLE 1  
BELGIUM AND LUXEMBOURG: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Country and commodity	1998	1999	2000	2001	2002
BELGIUM <sup>2</sup>					
Metals:					
Aluminum, secondary including unspecified metals <sup>e</sup>	1,000	1,000	1,000	500 <sup>r</sup>	500
Arsenic, white <sup>e</sup>	1,500	1,500	1,500	1,500	1,500
Bismuth, metal <sup>e</sup>	700	700	700	700	700
Cadmium, primary	1,318	1,235 <sup>r</sup>	1,148 <sup>r</sup>	1,236 <sup>r</sup>	125 <sup>e</sup>
Cobalt, primary <sup>e</sup>	1,200	950	1,110 <sup>r</sup>	1,090 <sup>r</sup>	1,000
Copper:					
Blister, secondary	138,000 <sup>e</sup>	143,300	144,700	220,000 <sup>r, e</sup>	225,000 <sup>e</sup>
Unwrought, total primary and secondary including alloys <sup>e</sup>	482,992 <sup>3</sup>	485,000	485,000	475,000	425,000
Refined, primary and secondary including alloys	368,000	388,000 <sup>e</sup>	423,100	425,000 <sup>e</sup>	425,000 <sup>e</sup>
Iron and steel:					
Pig iron	8,619	8,431	8,472	7,732 <sup>r</sup>	7,800 <sup>e</sup>
Ferroalloys, electric furnace, ferromanganese <sup>e</sup>	20,000	-- <sup>r</sup>	-- <sup>r</sup>	-- <sup>r</sup>	--
Steel:					
Crude	11,617	10,931	11,635	10,763 <sup>r</sup>	11,000 <sup>e</sup>
Hot-rolled products	12,195	12,780	13,689	12,770 <sup>r</sup>	12,000 <sup>e</sup>
Lead, refined:					
Primary <sup>e, 4</sup>	74,300	82,900 <sup>3</sup>	98,000	80,000 <sup>r</sup>	75,000
Secondary <sup>5</sup>	17,200	20,300	20,000	16,000 <sup>r</sup>	20,000 <sup>e</sup>
Total <sup>e</sup>	91,500	103,200 <sup>3</sup>	118,000	96,000 <sup>r</sup>	95,000
Selenium <sup>e</sup>	200	200	200	200	200
Tin, metal, secondary including alloys <sup>e</sup>	2,500	8,100	8,500	8,000	5,000
Zinc: <sup>e</sup>					
Slab:					
Primary	205,000 <sup>3</sup>	230,500 <sup>3</sup>	224,000 <sup>3</sup>	225,000 <sup>r, 3</sup>	225,000
Secondary, possibly remelted zinc	30,000	28,000	28,000	30,000 <sup>r</sup>	35,000
Total	235,000	259,000	252,000	255,000 <sup>r</sup>	260,000
Powder	30,000 <sup>3</sup>	30,000	30,000	25,000	25,000
Industrial minerals:					
Barite <sup>e</sup>	40,000	30,000	30,000	30,000	30,000
Cement, hydraulic <sup>e</sup> thousand tons	8,000	8,000	8,000	8,000	8,000
Clay, kaolin <sup>e</sup> do.	300	300	300	300	300
Lime and dead-burned dolomite, quicklime <sup>e</sup> do.	1,750	1,750	1,750	1,750	1,700
Nitrogen, N content of ammonia do.	756	850 <sup>e</sup>	863	860 <sup>e</sup>	860 <sup>e</sup>
Sodium sulfate <sup>e</sup> do.	250	250	250	250	250
Stone, sand and gravel: <sup>e</sup>					
Calcareous:					
Alabaster	1,200	1,200	1,200	1,200	1,200
Dolomite thousand tons	3,500	3,500	3,500	3,500	3,500
Limestone do.	30,000	30,000	30,000	30,000	30,000
Marble:					
In blocks	300	300	300	300	300
Crushed and other cubic meters	100	100	100	100	100
Petit granite, Belgian bluestone:					
Quarried thousand cubic meters	1,200	1,200	1,200	1,200	1,200
Sawed do.	100,000	100,000	100,000	100,000	100,000
Worked do.	15,000	15,000	15,000	15,000	15,000
Crushed and other do.	800,000	800,000	800,000	800,000	800,000
Porphyry, all types thousand tons	4,000	4,000	4,000	4,000	4,000
Quartz and quartzite	500,000	500,000	500,000	500,000	500,000
Sandstone:					
Rough stone including crushed thousand tons	2,400	2,400	2,400	2,400	2,400
Paving	14,000	14,000	14,000	14,000	14,000
Sand and gravel:					
Sand:					
Construction thousand tons	8,500	8,500	8,500	8,500	8,500
Foundry	500,000	500,000	500,000	500,000	500,000
Dredged thousand tons	2,000	2,000	2,000	2,000	2,000
Glass do.	1,800	1,800	1,800	1,800	1,800
Other do.	2,800	2,800	2,800	2,800	2,800
Gravel, dredged do.	5,000	5,000	5,000	5,000	5,000

See footnotes at end of table.

TABLE 1--Continued  
BELGIUM AND LUXEMBOURG: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Country and commodity	1998	1999	2000	2001	2002
BELGIUM--Continued <sup>2</sup>					
Industrial minerals--Continued:					
Sulfur: <sup>c</sup>					
Byproducts:					
Elemental	248,000	228,000	230,000 <sup>3</sup>	230,000	225,000
Other forms	180,000	180,000	180,000 <sup>3</sup>	180,000	175,000
Total	428,000	408,000	410,000 <sup>3</sup>	410,000	400,000
Sulfuric acid, oleum	2,000	2,000	2,000	2,000	2,000
Mineral fuels and related materials:					
Carbon black <sup>c</sup> thousand tons	1,000	1,000	1,000	1,000	1,000
Coke, all types <sup>c</sup> thousand cubic meters	3,400	3,400	3,400	3,222 <sup>r, 3</sup>	3,200
Gas, manufactured <sup>c</sup>	375,000	375,000	375,000	375,000	375,000
Petroleum refinery products:					
Liquefied petroleum gas thousand 42-gallon barrels	7,401	6,113	8,758	9,000 <sup>e</sup>	9,000 <sup>e</sup>
Naphtha and white spirit do.	12,954	13,656	17,213	16,000 <sup>e</sup>	16,000 <sup>e</sup>
Gasoline do.	54,672	51,281	45,152	50,000 <sup>e</sup>	50,000 <sup>e</sup>
Jet fuel do.	17,536	16,952	18,544	18,000 <sup>e</sup>	18,000 <sup>e</sup>
Distillate fuel oil do.	92,698	87,483	93,086	90,000 <sup>e</sup>	90,000 <sup>e</sup>
Refinery gas <sup>c</sup> do.	3,500	3,500	3,500	3,500	3,500
Residual fuel oil do.	49,384	41,998	49,557	50,000 <sup>e</sup>	50,000 <sup>e</sup>
Bitumen <sup>c</sup> do.	5,000	5,000	5,000	5,000	5,000
Other <sup>c</sup> do.	8,500	8,500	8,500	10,000	10,000
Refinery fuel and losses <sup>c</sup> do.	12,000	12,000	12,000	10,000	10,000
Total <sup>c</sup> do.	264,000	246,000	261,000	262,000	262,000
LUXEMBOURG <sup>6</sup>					
Metals, steel:					
Crude	2,478,000	2,427,000	2,571,000	2,725,000 <sup>r</sup>	2,700,000
Semimanufactures	2,517,000	2,775,000	3,019,000	2,974,000 <sup>r</sup>	2,800,000
Industrial minerals:					
Cement, hydraulic	699,254 <sup>r</sup>	742,040 <sup>r</sup>	750,000 <sup>r, e</sup>	725,000 <sup>r</sup>	700,000 <sup>e</sup>
Gypsum and anhydrite, crude <sup>c</sup>	400	400	400	400	400
Phosphates, Thomas slag: <sup>c</sup>					
Gross weight	475,000	475,000	475,000	475,000	475,000
P <sub>2</sub> O <sub>5</sub> content	70,000	70,000	70,000	70,000	70,000

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. -- Zero.

<sup>1</sup>Table includes data available through March 2003.

<sup>2</sup>In addition to the commodities listed, Belgium produced a number of other metals and alloys, for which only aggregate output figures were available

<sup>3</sup>Reported figure.

<sup>4</sup>Data not reported; derived by taking reported total lead output plus exports of lead bullion less imports of lead bullion.

<sup>5</sup>Data represent secondary refined lead output less remelted lead. As such, the figures are probably high because they include some lead that was sufficiently pure as scrap that did not require remelting, but data are not adequate to permit differentiation.

<sup>6</sup>Construction materials, such as dimension stone and sand and gravel, are also produced, but the amounts are no longer reported and no basis exists for the formulation of reliable estimates of output levels.

TABLE 2  
BELGIUM AND LUXEMBOURG: STRUCTURE OF THE MINERAL INDUSTRY IN 2002

(Thousand metric tons unless otherwise specified)

Country and commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
BELGIUM				
Cadmium, metal	metric tons	Umicore (Sté. Générale de Belgique, 50.2%)	Balen	1,800
Cement		Major companies:		8,400
Do.		Cimenteries CBR SA (Sté. Générale de Belgique)	Plants at Lixhe, Mons/Obourg, Harmignies, Marchienne, Ghent, and other locations	3,200
Do. <sup>1</sup>		Ciments d'Obourg SA	Plants at Obourg and Thieu	2,800
Do.		Compagnie des Ciment Belge (Ciments Francais)	Plant at Gaurain-Ramecroix	2,400
Cobalt	metric tons	Umicore (Sté. Générale de Belgique, 50.2%)	Refinery at Olen	500
Copper		do.	Smelter at Antwerp-Hoboken	50
Do.		do.	Refinery at Olen	330
Do.		Metallo-Chimique NV	Smelter at Beerse	80
Dolomite		SA Dolomeuse (Group Lhoist)	Quarry at Marche les Dames	500
Do.		do.	Plant at Marche les Dames	750
Do.		SA de Marche-les-Dames (Group Lhoist)	Quarries at Namèche	3,000
Do.		do.	Plant at Namèche	3,000
Do.		SA Dolomies de Merlemont (Group Lhoist)	Quarry at Philippeville	100
Lead, metal		Umicore (Sté. Générale de Belgique, 50.2%)	Smelter at Antwerp-Hoboken	90
Do.		do.	Refinery at Antwerp-Hoboken	125
Limestone		Carmeuse S.A. (Long View Investment NV)	Mines and plant at Engis	1,850
Do.		do.	Mines and plant at Frasnes	450
Do.		do.	Mines and plant at Maizeret	850
Do.		do.	Mines and plant at Moha	800
Do.		SA Transcar (Royal Volker Stevin)	Mines and plant at Maizeret	850
Petroleum, refined	42-gallon barrels per day	Companies:	Refineries:	712,000
		TotalFina S.A.	Of which: Refinery at Antwerp	(268,000)
		SA Esso NV	do.	(239,000)
		Belgian Refining Corp.	do.	(80,000)
		Nynas Petroleum NV	do.	(125,000)
Salt		Zoutman NV	Plant at Roeselare	200
Sand, silica		SRC-Sibelco SA	Mines and plants at Lommel, Mol, and Maasmechelen	500
Steel		Companies:		14,000
		Cockerill Sambre SA (Government of Wallonia, 80%)	Of which: Plants at Liège and Charleroi	(5,000)
		Sidmar NV (Belgian Government 28.24%; Arcelor Group, 71.76%)	Plant at Ghent	(3,960)
		Usines Gustave Boël NV	Plant at La Louviere	(2,020)
		Forges de Clabecq SA	Plant at Clabecq	(1,500)
		SA Fabrique de Fer de Charleroi	Plant at Charleroi	(600)
		ALZ NV	Plant at Genk-Zuid	(360)
		New Tubemeuse (NTW) SA	Plant at Flemalle	(300)
Zinc, metal		Umicore (Sté. Générale de Belgique, 50.2%)	Smelter and refinery at Balen	450
LUXEMBOURG				
Cement		SA des Ciments Luxembourgeois (ARBED, 50%; SGB, 25%)	Plant at Esch-sur-Alzette	450
Do.		Intermoselle SARL (ARBED, 33%)	Plant at Rumelange	1,000
Steel		Arcelor Group	Plants at Differdange, Dudelange, Esch-Belval, Esch-Schifflange	5,320

<sup>1</sup>Includes the capacity of the company SA Ciments de Haccourt.

TABLE 3  
BELGIUM: EXPORT AND IMPORT TRADE WITH  
THE UNITED STATES

(Million dollars)

Month	2001 <sup>1</sup>		2002 <sup>2</sup>	
	Exports	Imports	Exports	Imports
January	1,143	871	963	724
February	1,142	842	1,084	785
March	1,285	1,036	1,088	870
April	1,205	816	1,072	768
May	1,255	946	1,121	993
June	1,172	877	1,147	823
July	996	903	1,091	985
August	1,189	640	1,139	617
September	1,046	700	1,102	701
October	1,016	993	1,230	932
November	1,064	739	1,277	820
December	989	796	1,028	816
Total	13,502	10,159	13,342	9,835

<sup>1</sup>Source: U.S. Census Bureau, Foreign Trade Division, July 2002

<sup>2</sup>Source: U.S. Census Bureau, Foreign Trade Division, April 200